

Amendments to the Claims

This listing of claims replaces all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-19. (canceled)

Claim 20. (previously presented) An isolated polynucleotide that encodes a plant desaturase polypeptide having a sequence identity of at least 80%, based on the Clustal method of alignment, when compared to a polypeptide selected from the group consisting of SEQ ID NOs: 2, 4, 6, 8, and 17.

Claim 21. (previously presented) The polynucleotide of Claim 20 wherein the sequence identity is at least 85%.

Claim 22. (previously presented) The polynucleotide of Claim 20 wherein the sequence identity is at least 90%.

Claim 23. (previously presented) The polynucleotide of Claim 20 wherein the sequence identity is at least 95%.

Claim 24. (previously presented) The polynucleotide of Claim 20 wherein the polypeptide is selected from the group consisting of SEQ ID Nos:2, 4, 6, 8, and 17.

Claim 25. (previously presented) The polynucleotide of Claim 20, wherein the polynucleotide is selected from SEQ ID Nos:1, 3, 5, 7, and 16.

Claim 26. (previously presented) An isolated complement of the polynucleotide of Claim 20, wherein (a) the complement and the polynucleotide consist of the same number of nucleotides, and (b) the nucleotide sequences of the complement and the polynucleotide have 100% complementarity.

Claims 27-28. (canceled)

Claim 29. (previously presented) The cell of Claim 28, wherein the cell is selected from the group consisting of a yeast cell, a bacterial cell, an insect cell, and a plant cell.

Claims 30-32. (canceled)

Claim 33. (currently amended) An isolated [[a]] desaturase polypeptide having a sequence selected from the group consisting of SEQ ID NOs: 2, 4, 6, 8 and 17.

Claim 34. (currently amended) A ~~chimeric-gene~~recombinant DNA construct comprising the polynucleotide of Claim 20 operably linked to at least one suitable regulatory sequence.

Claim 35. (currently amended) The ~~chimeric-gene~~recombinant DNA construct of Claim 34, wherein the ~~chimeric-gene~~recombinant DNA construct is an expression vector.

Claim 36. (currently amended) A method for altering the level of plant desaturase polypeptide expression in a host cell, the method comprising:

- (a) Transforming a host cell with the ~~chimeric-gene~~recombinant DNA construct of claim ~~[[60]]~~34; and
- (b) Growing the transformed cell in step (a) under conditions suitable for the expression of the recombinant DNA construct ~~chimeric-gene~~.

Claim 37. (new) A method for transforming a cell comprising introducing into a cell the recombinant DNA construct of Claim 34.

Claim 38. (new) A method for producing a transgenic plant comprising (a) transforming a plant cell with the recombinant DNA construct of Claim 34, and (b) regenerating a plant from the transformed plant cell.

Claim 39. (new) A method for producing gamma linolenic acid in soybean plants, the method comprising transforming a soybean cell with the recombinant DNA construct of Claim 34, and regenerating transgenic plants from the transformed cell of (a), wherein plants comprising the recombinant DNA construct of Claim 34 produce gamma linolenic acid which is normally not produced in soybean plants.